

THE NORTHROP COLLECTION OF CRUSTACEA FROM THE BAHAMAS.

W. M. RANKIN.

[PLATES XXIX-XXX.]

THE Crustacea collected by Professor and Mrs. Northrop in the Bahama Islands in 1890 were sent to me by Professor Osborn, with the request that I prepare a report on them. The following list is the result. Such a list is of necessity largely a mere catalogue of names, but it is hoped that it may be of service in the preparation of a more extensive fauna of the Bahamas when such a work shall be undertaken. It has been with the idea of giving a little wider interest to the list that with each species the range of distribution has been given, and also the West Indian Islands noted where the species has been found, although this latter record is no doubt incomplete. I hope at least these notes of distribution may serve as a suggestion for the fuller record of the distribution of these species among the West Indies. The synonymy I have made brief, merely citing the original author and usually a reference to the work where a complete synonymy may be found.

The letters (*a*), (*b*), etc., in many species indicate the various series of specimens in the collection as they were arranged originally or, in some cases, sorted out by me after their receipt. To these series I have fortunately been able to add some notes made by Professor Northrop when the collections were made, and recently sent me by Mrs. Northrop.

Among the sixty-seven species collected I have determined four as new species and one I have ranked as a new variety. There is also published for the first time a figure of *Stenopus lœvis*. For the careful drawings of the figures I am indebted to Mr. R. Weber. I wish to express my obligations to Miss Rath-

bun, of the National Museum, for assistance in identifying a few species ; and also to Dr. Ortmann, of Princeton, who has kindly assisted me in many ways and to whom this report owes much of any value it may possess.

DECAPODA.

BRACHYURA-CATOMETOPA.

Family **Ocypodidæ** Ortmann.

1. **Ocypode arenaria** (Catesby).

Cancer arenarius Catesby, History of the Carolinas, II, p. 35, 1771.

Kingsley, Proc. Acad. Nat. Sci., Phil., 1880, p. 184.

Ortmann, Zoöl. Jahrb., VII, p. 765, 1894.

(a) 5 ♂, 2 ♀. Near Nassau, N. P., Jan. 24, '90.

Range : South shore Long Island to Rio Janeiro.

Collected at Cuba, Jamaica, St. Thomas, New Providence.

2. **Uca platydactyla** (Milne-Edwards).

Gelasimus platydactylus Milne-Edwards, Hist. des Crustacés, II, p. 51, 1837.

G. heterochles Kingsley, l. c., 1880, p. 137.

(a) 4 ♂. Under sides of stones, Dix Point, near Nassau, N. P., Feb. 4, '90.

(b) 8 ♂, 7 ♀.

Range : East and west coasts Central America, West Indies.

Collected at Jamaica.

3. **Uca vocator** (Herbst).

Cancer vocator Herbst. Natur. Krabben u. Krebse, III, pt. IV, 1804.

Gelasimus vocator Martens ; Kingsley, l. c., 1880, p. 147.

(a) 1 ♂. Bahama Islands.

Range : East coast of America, west coast of Mexico, Panama, West Indies.

Collected at Bahamas, Cuba, Hayti, Jamaica.

4. *Uca stenodactyla* (M. Edwards et Lucas).

Gelasimus stenodactylus, M. Edwards et Lucas in D'Orbigny's Voyage, 1843.

Kingsley : l. c., 1880, p. 154. Ortmann : l. c., p. 760, 1894.

(a) 1 ♂. Common in mud on west side of Andros Island, near Red Cays, Apr. 17, '90.

Range : West Indies, Central America, East and West Coasts. Collected at Cuba.

5. *Uca leptodactyla* (Guérin MS.).

Gelasimus leptodactylus Guérin MS. (types in Phila. Acad.).

Gelasimus stenodactylus Kingsley, Proc. Acad. Nat. Sci., Phila., p. 155 (part), 1880.

(a) 10 ♂, 5 ♀. Holes in sand between tides about 5-6 in. deep, very shy, near Ft. Montagu, Nassau, N. P., Jan. 28, '90.

Some of these specimens were sent to the United States National Museum, where they were identified by Miss Rathbun, and to whom I am indebted for the following note of description :

"*Uca leptodactyla* belongs to the division of the genus in which the front between the eyes is broad and the body is short, broad and subcylindrical. It is most nearly related to *U. stenodactyla*; the chief differences are as follows: In *U. stenodactyla* the body is much higher than in *leptodactyla*, being usually higher than long. The anterior margin of the carapace from the base of the eyestalk to the antero-lateral angle is much more oblique in *leptodactyla*, and the lateral margins are much more convergent posteriorly. The carapace of *leptodactyla* is, therefore, more pentagonal than that of *stenodactyla*. In *stenodactyla* the lateral margin is much dilated behind the antero-lateral tooth, which is not the case in *leptodactyla*. The inner surface of the hands differs as follows: The short ridge on the palm at the base of the dactylus is perpendicular to the base of the propodus in *leptodactyla*; while it is oblique in *stenodactyla*. In both species the tubercular ridge running obliquely upward from the lower margin makes an angular turn at the middle of the inner surfaces, and is continued until near the upper margin. In *leptodactyla*

this continuation runs parallel to the line of tubercles at the base of the dactylus; in *stenodactyla* the continuation is directed obliquely towards the line at the base of the dactylus."

Family **Gecarcinidæ** Dana.

6. **Gecarcinus ruricola** (Linnæus).

Cancer ruricola Linnæus, Sys. Nat. Ed. 10, I, p. 626, 1758.

Gecarcinus ruricola Leach. Edin. Encyc., VII, 430, 1814.

Ortmann, l. c., p. 740, 1894.

(a) 1 ♂. Bahama Islands. (Dry.)

(b) 1 ♂. Nicolstown, Andros Island, March 9, '90. (Dry.)

Range: West Indies, Mexico.

Collected at Cuba, Jamaica, Hayti, Martinique.

7. **Cardisoma guanhumi** (Latreille).

Latreille, Ency. Méth., Hist. Nat. Insectes, X, 685, 1825.

Ortmann, l. c., p. 735, 1894.

(a) 1 ♂, 1 ♀, ♂ 1, juv. Move sluggishly, make holes in the ground by side of road under trees, Nassau, N. P., Jan. 25, '90.

Range: East and west coasts of Central America, West Africa.

Collected at Cuba, Jamaica, Hayti, St. Thomas, Barbadoes.

Family **Grapsidæ** (Dana).

8. **Leiolophus planissimus** (Herbst).

Cancer planissimus Herbst, l. c., p. 3, pl. LIX, 1804.

Miers, Ann. Mag. Nat. Hist. Ser. 5, I, 1878, p. 153.

(a) 3 ♂, 1 ♀. On shore, just south of Ft. Montagu, Nassau, N. P., Jan. 22, '90.

(b) 2 ♂ juv. Ocean side of Salt Cay, N. P., Jan. 31, '90.

Range: "Cosmopolitan, except the colder seas," Ortmann.

Collected at Jamaica.

9. **Plagusia depressa** (Fabricius).

Cancer depressus Fabricius, Entom. Sys. Suppl., p. 406, 1775.

Miers, Challenger, Brachyura, p. 272.

(a) 2 ♂. Salt Cay, New Providence. (Dry.)

Range: Charleston to Brazil, Mediterranean to St. Helena.

Collected at Cuba, Jamaica.

10. **Sesarma cinerea** (Say).

Sesarma ricordi Milne Edwards, Annal Sci. Nat. (3) Zool. t. 20, p. 183, 1853.

Ortmann, Carcinologische Studien, Zool. Jahrb., Bd. X, 1897.

(a) 1 ♀ with ova. Under side of stones, Dix. Pt., near Nassau, N. P., Feb. 4, '90.

Range: West Indies.

Collected at St. Domingo, Hayti, Jamaica, St. Thomas.

11. **Pachygrapsus transversus** (Gibbes).

Gibbes, Proc. Am. Ass. Adv. Sci., III, p. 182, 1850.

Kingsley, l. c., 1880, p. 198.

(a) 4 ♂ (juv.), 3 ♀ with ova. Nassau, N. P., under stones Jan., 1890.

Range: Warm and temperate waters of both hemispheres.

Collected at Cuba, Jamaica, Virgin Islands, Barbadoes.

12. **Grapsus grapsus** (Linnaeus).

Cancer grapsus Linnaeus, Sys. Nat. ed. X, I, p. 630, 1758.

Smith, Trans. Conn. Ac. IV, 1880, p. 256. Ortmann, l. c., p. 703, 1894.

(a) 1 ♂, 2 ♀. Near Nassau, N. P., Jan., '90.

Range: Warm waters of both hemispheres.

Collected at Cuba, Jamaica, Hayti.

13. **Goniopsis cruentatus** (Latreille).

Grapsus cruentatus Latreille, Hist. Nat. des Crust. VI, p. 70, 1803.

ANNALS N. Y. ACAD. SCI., XI, August 13, 1898—16.

Kingsley, l. c., 1880, p. 190. Ortmann, l. c., p. 701, 1894.

(a) 1 ♂. (Dry.)

(b) 2 ♀. On shore near Nassau, N. P., Jan. 23, '90.

Range : American and African Coasts of the Atlantic ocean.

Collected at Cuba, Jamaica, Hayti.

BRACHYURA—CYCLOMETOPA.

Family **Oziidæ** Ortmann.

14. **Eriphia gonagra** (Fabricius).

Cancer gonagra Fabricius, Sp. Ins., p. 505, 1781.

Ortmann, l. c., p. 480, 1894.

(a) 1 ♂. In pools on shore, Nassau, N. P., Jan. 21, '90.

(b) 1 ♀. Dix Pt., near Nassau, N. P., Feb. 4, '90.

(c) 1 ♂. Salt Cay. Ocean side, near N. P., Jan. 31, '90.

Range : Atlantic coast from Carolina to Rio Janeiro.

Collected at Bahamas, Cuba, Jamaica, Hayti, Barbadoes.

15. **Domœcia hispida** Eydoux et Souleyet.

Eydoux et Souleyet, Voy. Bonite, I, Crust., p. 235, 1842.

Ortmann, l. c., p. 478, 1894.

(a) 1 ♀, juv.

Range : West Indies, Florida, Cape Verde Islands, Senegal, Pacific Islands.

Collected at Cuba, Jamaica, St. Thomas, Guadeloupe.

16. **Panopeus herbstii** Milne-Edwards.

Milne-Edwards, Hist. Nat. Cr., I, p. 403, 1834.

Benedict & Rathbun, Proc. U. S. Nat. Mus., XIV, p. 358, 1891.

(a) 1 ♂. Nassau, N. P., Jan., 1890.

Range : Rhode Island to Brazil.

Collected at Bahamas, Jamaica, St. Thomas, Curaçao, Trinidad.

17. **Panopeus occidentalis** Saussure.

Saussure, Rev. and Mag. de Zoöl. (2), IX, p. 502, 1857.

(a) 1 ♀. Near Nassau, N. P., Febr., '90.

(b) 1 ♂. On shore near Nassau, N. P., Jan. 22, '90.

Range : Atlantic from S. C. to Brazil.

Collected at Jamaica, Old Providence, Guadaloupe, Curaçao, Trinidad.

18. **Panopeus americanus** Saussure.

Saussure, Rev. et Mag. de Zoöl. (2), IX, p. 502, 1857.

(a) 1 ♂, 4 ♀. Near N. P., Bahamas, Jan.—Febr., 1890.

(b) 1 ♂. On shore, near Nassau, N. P., Jan. 22, '90.

(c) 1 ♂. Nassau, N. P., Febr. 24, 1890, Dix Pt.

Range : West Indies to Brazil.

Collected at Jamaica, St. Thomas.

Family **Xanthidæ** Ortmann.19. **Chlorodius floridianus** Gibbs.

Gibbs, l. c., p. 175, 1850.

(a) 1 ♀. Collected in pools and under stones, N. P., and neighboring cays.

(b) 1 ♂. Dix Pt., Nassau, N. P., Febr. 24, 1890.

(c) 1 ♂, 2 ♀. Near New Providence, Jan.—Feb., 1890.

(a) 1 ♂, 3 ♀. On shore near Nassau, N. P., Jan. 22, '90.

Range : Florida to Brazil.

Collected at Jamaica, St. Thomas, Barbadoes.

20. **Lophactæa lobata** (Milne-Edwards).

Cancer lobatus Milne-Edwards, Hist. Nat. Crustacés, I, p. 375, 1834.

Lophactæa lobata A. Milne-Edwards, Nouv. Arch. Mus. Hist. Nat., I, p. 249, Pl. XVI, 1865.

(a) 1 ♀. Quarantine station, Jan. 25, '90.

Range : West Indies, Gulf of Mexico, Bermuda.

Collected at Jamaica and the Antilles.

21. **Heteractæa ceratopa** (Stimpson).

Pilumnus ceratopus Stimpson, Ann. Lyc. Nat. Hist. N. Y., VII, p. 215, 1862.

Heteractæa ceratopus Kingsley, l. c., 1879, p. 396.

(a) 1 ♀. Dix Pt., Nassau, N. P., Febr. 24, 1890.

(b) 1 ♀. Quarantine station, N. P., Jan. 25, '90.

Range: Florida and West Indies.

Collected at Guadeloupe.

22. **Actæa acantha** (Milne-Edwards).

Cancer acanthus Milne-Edwards, Hist. Nat. Cr., I, p. 390, 1834.

Actæa acantha A. Milne-Edwards, l. c., p. 278, Pl. XVI, 1865.

(a) 1 ♂. Quarantine station near Nassau, N. P., Febr. 10, 1890.

Range: Florida Keys, West Indies.

Collected at Jamaica, Guadeloupe.

PORTUNINEA.

Family **Portunidæ** Ortmann.23. **Callinectes larvatus** Ordway.

Ordway, Boston Jour. Nat. Hist., VII, p. 573, 1863.

Rathbun. The genus *Callinectes*, Proc. U. S. Nat. Mus., XVIII, p. 358, 1896.

(a) 1 ♂, 1 ♀, spur. juv. On shore, just south of Ft. Montagu, Nassau, N. P., Jan. 22, '90.

Range: Florida to Brazil, West Indies, Cape Verde Islands, Africa.

Collected at Bahamas, San Domingo, Jamaica, St. Thomas.

24. **Callinectes tumidus** Ordway.

Ordway, l. c., p. 574, 1863.

Rathbun, l. c., p. 359, 1896.

(a) 1 ♂. Nassau, N. P., Jan. 21, 1890, common in shoal water.

Range: Florida to Brazil, West Indies.

Collected at Jamaica, Hayti, Old Providence.

25. **Achelous depressifrons** Stimpson.

Amphitrite depressifrons Stimpson, Ann. Lyc. Nat. Hist. N. Y., VII, p. 58, 1862.

Achelous depressifrons Stimpson, *ibid.*, p. 223.

(a) 1 ♀. Quarantine station, N. P., Jan. 25, '90.

Range: South Carolina to Florida, Bermuda, West Indies. Besides this specimen from New Providence, the Princeton Museum possesses one from the Virgin Islands; the only two localities reported from the West Indies.

26. **Achelous ordwayi** Stimpson.

Stimpson, Notes on N. Am. Crustacea, Ann. Lyc. Nat. Hist., N. Y., p. 224, 1862.

Smith, Trans. Conn. Acad., II, p. 9.

(a) 1 ♂. Quarantine station, N. P., Jan. 25, '90.

(b) 1 ♀, with ova. Dredged near Nassau, N. P., Jan. 22, '90.

Range: Florida and West Indies.

Collected at St. Thomas.

27. **Achelous tumidulus** Stimpson.

Stimpson, Bull. Mus. Comp. Zoöl., II, p. 149, 1870.

(a) 1 ♂. Dredged near Nassau, N. P., Jan. 22, '90.

Stimpson describes two specimens from the coast of Florida. The species is probably only the young of *A. ordwayi*, as it only differs from the latter (as noted by Stimpson) in the less prominent frontal spines.

MAIOIDEA..

Family **Periceridæ** Miers.

28. **Macroceloma eutheca** (Stimpson).

Pericera eutheca Stimpson, Bull. Mus. Comp. Zoöl. II, p. 112, 1870.

Rathbun in Proc. U. S. Nat. Mus., Vol. XV, No. 901, p. 251, 1892.

(a) 1 ♀. Dredged near Nassau, N. P., Jan. 22, '90.

Range: Florida, West Indies.

Collected at Cuba.

29. *Microphys bicornutus* (Latreille).

Pisa bicornuta Latreille, Encyc. Méth., Hist. Nat. Insectes, X, p. 141, 1825.

Microphys bicornutus, A. Milne-Edwards, Nouv. Arch. Mus. Hist. Nat., VIII, p. 247, 1872.

Rathbun, l. c. (No. 901), p. 253.

(a) 2 ♂, 5 ♀. Common under rocks between tides and in pools, N. P., Jan., '90.

(b) 1 ♂. Quarantine station, N. P., Jan. 25, '90.

(c) 1 ♀. Nassau, N. P., Jan., '90.

(d) 1 ♂. On shore near Nassau, just south of Ft. Montagu, Jan. 22, '90.

(e) 1 ♀ juv. "Sea gardens," near Nassau, N. P., Febr., '90.

(f) 1 ♂, juv. Ocean side of Salt Cay, Febr. 6, '90.

(g) 1 ♂, juv. Nassau, N. P., Febr. 15, '90.

(h) 1 ♀ juv. Salt Cay, N. P., ocean side, Jan. 31, '90.

Range: Florida, West Indies to Brazil, Bermuda.

Collected at numerous islands of the West Indies.

30. *Othonia aculeata* (Gibbes).

Hyas aculeata Gibbes, l. c., p. 171, 1850.

Rathbun, l. c., p. 255, 1892.

(a) 1 ♂. On shore just south of Ft. Montagu, Nassau, N. P., Jan. 22, '90.

Range: Florida and West Indies.

Collected at Cuba, Bahamas, Jamaica, St. Thomas, Guadeloupe.

31. *Othonia lherminieri* Schramm.

Schramm, Crust. de la Guadeloupe, 20, 1867.

(a) 1 ♂, 2 ♀. On shore near Nassau, Jan. 22, '90.

The three specimens in the collection are broken and imperfect. I place them doubtfully in this species.

Range: Atlantic coast; S. C. to Brazil.

32. **Mithrax pilosus** Rathbun.

Rathbun, l. c., p. 262, Pl. XXXIX (No. 901), 1892.

(a) 1 ♂. Near New Providence, Jan., '90.

(b) 2 ♂ (fragmentary). Salt Cay, ocean side, New Providence, Jan. 31, '90.

Miss Rathbun's four specimens were collected in Abaco, Bahamas.

33. **Mithrax cinctimanus** (Stimpson).

Mithraculus cinctimanus Stimpson, Ann. Lyc. Nat Hist. N. Y., VII, p. 186, 1862.

Rathbun, l. c., p. 268 (No. 901), 1892.

(a) 1 ♀. Dix Pt., Nassau, N. P., Febr. 24, '90.

(b) 1 ♂. Quarantine station, N. P., Jan. 25, '90.

(c) 1 ♀ (broken). Near Nassau, N. P., Febr., 1890.

(d) 1 ♀ (juv.). Nassau, N. P., Jan. '90.

Range: Florida coast, West Indies, Gulf of Mexico.

Collected at Andros island, Jamaica, St. Thomas, Guadeloupe.

34. **Mithrax forceps** (A. Milne-Edwards).

Mithraculus forceps A. Milne-Edwards. Miss. Sci. au Mexique, pt. 5, I, p. 109, 1875.

Rathbun, l. c., p. 267 (No. 901), 1892.

(a) 6 ♀, mostly young. Ocean side of Salt Cay, Febr. 6, '90.

(b) 1 ♂ fragmentary. Nassau, N. P.

(c) 3 ♀. "Sea gardens," near Nassau, N. P., Febr., '90.

(d) 1 ♂, 2 ♀ juv.

Range: From North Carolina to Brazil and Guiana.

Collected at Nassau, Bahamas, Old Providence, St. Thomas, Curaçao.

35. **Mithrax sculptus** (Lamarck).

Maia sculpta Lamarck, Hist. Anim. sans Vert., V, p. 242, 1818.

Rathbun, l. c. (No. 901), p. 271, 1892.

(a) 1 ♂, 1 ♀. Quarantine station, N. P., Jan. 25, '90.

Range: Florida, West Indies to Venezuela, Surinam.

Collected at numerous localities in the West Indies.

36. **Mithrax coronatus** (Herbst).

Cancer coronatus Herbst, Natur. der Krabben u. Krebse., I, p. 184, Pl. XI, fig. 63, 1785.

Rathbun, l. c. (No. 901), p. 272, 1892.

(a) 1 ♂. Salt Cay, ocean side, near New Providence, Jan. 3, '90.

(b) 1 ♂ juv. Ocean side of Salt Cay, Febr. 6, '90.

Range: Florida, West Indies, Central America, Brazil.

Collected at Abaco, Bahamas, Jamaica, Cuba, St. Thomas, Guadeloupe.

Family **Inachidæ** Miers.

37. **Acanthonyx petiverii** Milne-Edwards.

Milne-Edwards, Hist. Nat. Crust., I, p. 343, 1834.

(a) 1 ♀ broken. Under rocks, between tides and in pools. Nassau, N. P., Jan., '90.

Range: West Indies to Brazil and California to Chili; Galapagos.

Collected at Cuba, Jamaica, St. Thomas, Guadeloupe, Martinique.

DROMIIDEA.

Family **Dromiidæ** Dana.

38. **Dromidia antillensis** Stimpson.

Stimpson, Notes on N. Am. Crust., Ann. Lyc. Nat. Hist. N. Y., VII, p. 71, 1859.

(a) 1 ♀. Nassau, N. P., Febr. 15, '90.

Range: Florida, West Indies, Brazil.

Collected at Antilles, Jamaica, St. Thomas.

HIPPIDEA.

Family **Hippidæ** Stimpson.39. **Remipes cubensis** Saussure.

Saussure, Rev. Mag. Zoöl. (2), IX, p. 503, 1857.

Ortmann, Die geog. Verbreit. der Decap. gruppe der Hippidea, Zoöl. Jahrb., IX, p. 219, 1896.

Remipes scutellatus (Fabricius), Henderson, Chall. Anomura, p. 38, 1888.

(a) 19 ♀ (with ova). Beach at Nicolstown, Andros Island, Apr. 4, '90.

(b) 2 ♂, 9 ♀. Quarantine station near New Providence, Jan. 25, '90.

(c) 1 ♀. Nassau, N. P., Jan., 1890.

Range: "American and African shores of Atlantic," Ortmann (l. c. supra).

Collected at Cuba, Jamaica, St. Christophers, Barbadoes.

GALATHEIDEA.

Family **Porcellanidae** Henderson.40. **Porcellana sayana** Leach.

Pisidia sayana Leach. Dict. d. Sci. Nat., XVIII, p. 54, 1820.

Porcellana ocellata Gibbes, l. c., p. 190, 1850.

Henderson, Challenger, Anomura, p. 109, 1888.

(a) 1 ♂. Came out of a shell inhabited by a large hermit crab. Nassau, N. P., Jan. 26, '90.

Range: West Indies and Southern shores of U. S.

Collected at Antilles, Jamaica, St. Thomas.

41. **Pachycheles panamensis** Faxon.

Faxon, Mem. Mus. Comp. Zoöl., XVIII, p. 75, Tab. 15, 1895.

Ortmann, Zoöl. Jahrb., X, 1897, p. 293.

(a) 1 ♂, 2 ♀. Ocean side of Salt Cay, Febr. 6, '90.

Size of ♂ $5\frac{1}{2}$ mm. long, 5 mm. broad; of ♀ 5 mm. long, 6 mm. broad. These specimens have been kindly examined for me by Dr. Ortmann, who finds them identical with Faxon's type from Panama, and also very close to the Cape Verde *P. barbatus* A. Milne-Edwards. This is the first recorded specimen of *P. panamensis* from the West Indies.

42. **Petrolisthes armatus** (Gibbes).

Porcellana armata Gibbes, l. c., p. 190, 1850.

Petrolisthes armatus Stimpson, Ann. Lyc. Nat. Hist., N. Y., VII, p. 73, 1862.

Ortmann, Zoöl. Jahrb., X, 1897, p. 280.

(a) 1 ♂, 1 ♀. Ocean side of Salt Cay, Feb. 6, '90.

Ortmann (l. c. supra), gives full synonymy of this species and makes its distribution circumtropical; West Indies to Brazil, Gibraltar, California to Panama, Indo-Pacific.

Collected at Cuba, Jamaica, St. Thomas, Barbadoes.

43. **Petrolisthes tridentatus** Stimpson.

Stimpson, Ann. Lyc. Nat. Hist., N. Y., VII, p. 75, Pl. I, 1859.

(a) 1 ♂. Along shore, near Nassau, N. P., Feb. 20, '90.

(b) 2 ♂, 5 ♀. Salt Cay, N. P., ocean side, Jan. 31, '90.

(c) 2 ♂, 1 ♀. Under sponges, Nassau, N. P., Jan. '90.

Range: West Indies.

Collected at St. Thomas, Barbadoes.

PAGURIDEA.

Family **Cænobitidæ** Dana.

44. **Cænobita diogenes** (Latreille).

Milne-Edwards, Hist. Nat. Crust., II, p. 240, Pl. 22, 1837.

(a) 2 ♂. Nicolstown, Andros Island, March 23, '90.

(b) 2 ♂, 1 ♀. Nassau, N. P., Jan. 16, '90.

(c) 2 ♀. On beach, Quarantine station, near Nassau, N. P., 1890.

(*d*) 1 ♀, juv. In pools and under stones, New Providence and neighboring cays.

Range: Florida to Brazil, West Indies, Bermuda.

Collected at Antilles, Cuba, Jamaica, Hayti, Turks Island, St. Thomas, Barbadoes.

Family Paguridæ.

45. **Petrochirus granulatus** (Olivier).

Pagurus granulatus Olivier, Encyc. Méth., VIII, p. 640, 1811.
Henderson, in Challenger, Anomura, p. 58, 1888.

(*a*) 3 ♂.

(*b*) 1 ♂, 1 ♀. In shell of *Strombus gigas*, Nassau, N. P., Jan. 26, '90.

Range: West Indies, Gulf of Mexico to Brazil, Cape of Good Hope.

Collected at Antilles, Cuba, Jamaica.

The common large West Indian hermit crab.

46 (?) **Clibanarius vittatus** (Bosc.).

Pagurus vittatus Bosc. Hist. des Crust., II, p. 8, pl. XII, 1802.
Kingsley, Proc. Acad. Nat. Sci. Phil., p. 236, 1878.

(*a*) 1 ♂ imperfect. In small shell of *Strombus gigas*, beach near Nassau, N. P., Jan. '90.

(*b*) 1 (?) fragmentary. Near Nassau, N. P., Febr. 1, '90.

Range: Fort Macon to Florida, West Indies, Brazil.

I refer these imperfect specimens doubtfully to this species. The chelæ are wanting in (*a*), and (*b*) is too much broken to be of any value in the determination.

47 (?) **Clibanarius tricolor** (Gibbs).

Pagurus tricolor Gibbs, Proc. Amer. Assoc., p. 189, 1850.

(*a*) several specimens.

(*b*) 1 ♂. South side New Providence, in small shells of *Strombus gigas*.

The determination is doubtful, as the specimens are very poor and have almost entirely lost their color. They are all withdrawn into the shells of various littoral mollusks.

Family **Parapaguridæ** Smith.48. **Parapagurus** sp.

(a) 2 ♀. Dredged, Jan. 22, '90, Nassau, N. P.

Length of thorax 3 and 5 mm. respectively.

I refer these imperfect, colorless specimens doubtfully to some species of *Parapagurus*.

LORICATA.

Family **Panuliridæ** Bate.49. **Panulirus argus** (Latr.).

Palinurus argus Latr. Milne-Edwards, Hist. Nat. Crust., II, p. 300, 1837.

(a) 1 ♂, 1 ♀. New Providence, Jan. 27, '90. Holes in sand between tides, about 5-6 in. deep, "very shy."¹

(b) 1 ♀. Nassau, N. P., Jan., 1890. (Dry.)

Range: West Indies to Brazil.

Collected at Antilles, Cuba, Jamaica.

STENOPIDEA.

Family **Stenopidæ** Bate.50. **Stenopus hispidus** (Latreille). (Pl. xxix, Fig. 1.)

Palæmon hispidus Olivier, Encyclop., VIII, p. 666, 1811.

Stenopus hispidus Latreille, Regne animal de Cuvier, ed 2, IV, p. 93.

Bate, Challenger, Macrura, p. 211, Pl. XXX.

Herrick, The Life History of *Stenopus*, Nat. Acad. of Sciences, Vol. V, p. 339.

(a) 1 ♂. Nassau, N. P., Jan. 22, '90. In life the antennæ are carried in front, not bent back.

I note the characters of special importance in order to com-

¹ This label is marked as doubtfully belonging to this specimen.

pare this already described species of *Stenopus* with the two species following. Rostrum with a median dorsal row of 6 spines bifurcated at extremity, a lateral row of 3 or 4 spines on each side of rostrum; no ventral spines. Back of the sixth dorsal spine a double row. Rostrum does not reach to end of peduncle of inner antennæ. Carapace of thorax very rough, with firm, sharp spines which are longer on the dorsal than on the lateral regions. Abdomen thickly armed with outwardly projecting spines. Third pereopod long, abundantly armed with spines. The propodos with six rows above and below and two on each lateral surface.

Measurements: Total length 50.5 mm., length of cephalothorax 16.5 mm., of abdomen 34 mm., of rostrum 6 mm., of telson 9.5 mm.

Unless the Eastern form should prove distinct from the West Indian, we have a widely distributed species occurring in the warm waters of both hemispheres. It has been reported from: Indian ocean (Olivier), Australia (Peron and Lesneur), Borneo and Philippines (Adams and White), South Pacific (Dana), Amboina (DeMan), Fiji Islands and Bermuda (Bate), Cuba (Von Martens), Bahama Islands (Herrick).

I introduce a figure of this specimen (Pl. xxix, Fig. 1), although not a new species, in order to compare it with the two following species, figures of which have not yet appeared.

51. *Stenopus semilævis* Von Martens (Pl. xxix, Fig. 2).

Von Martens, Ueber Cubanische Crustaceen, Arch. f. Naturgesch., Bd. 38, p. 144, 1872.

(a) 1 ♂, 1 ♀ with ova. Under large sponge. New Providence, Jan., '90.

My specimens correspond very closely, except in certain minor particulars noted below, with the description given by Von Martens of a species "probably from the West Indies," which he found undescribed in the Berlin Museum and which he called *S. semilævis*.

Von Martens' description (l. c., supra) I reproduce: "Cephalothorax spiny; abdomen smooth; rostrum short, not longer

than the peduncle of the inner antennæ, compressed laterally and prolonged as a ridge nearly to the sharply marked cervical furrow, above with four teeth, below teeth wanting. Carpus of third pair of pereopods quadrangular as in *S. hispidus*, but the chelæ compressed, with smooth sides and not so long; chelæ, including the dactyl, twice as long as broad; the upper margin sharper than the under and smooth, the under serrated. The dactyl half as long as the palma; the back of the dactyl keeled, serrated. Length from tip of rostrum to tip of telson 12 mm. Length of third pereopod 13 mm. Breadth of chela 3 mm. The fourth pereopod shorter than third."

I note the following peculiarities in my specimens: *Dorsal surface of rostrum with six teeth*; the fourth and sixth have each a minute subsidiary tooth. *Ventral surface with a single, not very prominent tooth*. Both margins of the chelæ of the third pereopods very finely serrated, a rather prominent keel on the upper margin. The third pereopod of the right and left sides similar. Telson spiny. The large specimen (♀) is 15 mm. long, the ♂ slightly smaller. Length of chelæ in ♀, 6 mm., breadth, 2.5 mm.

Not having the opportunity of comparing the Bahama specimens with Von Martens' type I prefer to consider these slight variations as possibly due to imperfect description, and to place my specimens, provisionally, at least, with Von Martens' species.

S. semilævis differs from *S. hispidus* mainly in the teeth of rostrum, the shorter rostrum, the proportionately shorter and thicker hand, the less spiny carapace of cephalo-thorax and the smooth abdomen.

52. ***Stenopus scutellatus*** n. sp. (Pl. xxix, Fig. 3).

(a) 1 (?) ♂. Under coral, near low water, Silver Cay, N. P.

Total length from tip of rostrum to tip of thorax 18 mm. Length of rostrum 3 mm., of cephalo-thorax 7 mm.

Rostrum has a single row of ten spines on median dorsal line; back of the tenth a double row of three spines extend to the cervical furrow. On median ventral line of rostrum are six spines; *no lateral spines* on rostrum. Rostrum longer than in

S. hispidus, extending beyond the peduncle of inner antennæ. Whole surface of carapace covered with delicate spines obscurely arranged in rows; usually curved forward, with a somewhat reflexed tip. Spines on dorsal surface of first two abdominal segments short and straight in a double row pointing forwards; on third segment several rows, stouter, pointing outwards; on the fourth, fifth and sixth segments spines are longer, pointing backwards. In the middle of the posterior portion of the tergum of the third abdominal segment there is a polished, slightly elevated, shield-shaped area, with crenulated margins, about 1 mm. in length. The median tergal region of fourth segment is smooth and polished, surrounded by a row of appressed spines, the same being true to a less extent of the fifth segment. I have taken the specific name from this peculiar scutellar area on the third abdominal segment. This feature seems to correspond to a triangular but less prominent area on the similar segment in *S. hispidus* which is prolonged into a smooth dorsal ridge on the next segment.

Telson lance-shaped, with a double row of spines between which is a longitudinal groove about as long as the uropodal lamellæ, which are finely serrated on their margins, and, as the telson, fringed with stiff hairs.

Eyes on short peduncles which are armed above with three short spines projecting over the cornea, and with a few spines at the anterior margin. Cornea (in alcoholic specimen) bluish-black. Inner antennæ; peduncle with a few weak spines at distal end of segments. Outer antennæ; peduncles with strong, forwardly projecting spines. Scale lined on inner margin with long, closely set hairs and prolonged into a ciliated bristle. Flagella more than twice the length of body. Third maxillipedes when extended reach a little further than extremity of rostrum; the three distal segments about equal in length.

First pair pereopods wanting in my specimen. Second pair slender, chelate, segments of equal length. Third pair of similar proportions to those in *S. hispidus*; chelæ 7 mm. long; propodos laterally compressed and somewhat triangular in cross section, broad above; on the dorsal margin a double row of

eleven spines each, on the ventral margin a single row of nine spines; two or three rows of minute spines on lateral surfaces. A number of long, soft hairs over the fingers, especially at the tips. Hands of the two chelapods similar in size. Carpus and ischium together about equal to propodos, each armed with rows of spines. Fourth pair long and slender; dactylus bifid; propodos slightly spiny, one-half length of carpus. Carpus and propodos obscurely articulated. Fifth pair pereiopods undeveloped. Pleopods biramous, except first, with two or three spines each on the protopodite.

From the single specimen at my disposal I would compare this species with *S. hispidus* as follows: Rostrum proportionately longer (nearly $\frac{1}{2}$ length of cephalothorax, in *n. sp.* ($\frac{1}{3}$ in *hispidus*), longer than peduncle of inner antennæ. Six ventral teeth (*hispidus* none), no lateral teeth, single dorsal row of ten teeth (*hispidus* six). Flagella of outer antennæ fully twice the length of body; proportion 2:1 for *n. sp.*, 7:5 for *hispidus*. Tergum of third abdominal segment with shield-shaped area. Third maxillipedes proportionately shorter than in *hispidus*. Spines on cephalothorax equally long, but less rigid than in *hispidus*, giving in general a less thorny character to the new species.

EUCIPHIDEA.

Family Palæmonidæ Bate.

53. *Palæmon savignyi* (Bate).

Brachycarpus savignyi Bate, Challenger, Macrura, p. 795, Pl. 129, 1888.

Ortmann, Zoöl. Jahrb., Bd. V, p. 727.

(a) 1 specimen. Near Nassau, N. P., Febr., '90.

(b) 1 specimen. Nassau, N. P., 1890.

(c) 5 ♀ with ova. Nassau, N. P., 1890.

Bate's specimen was from Bermuda, "in shallow water."

"This is the most northern limit of genus *Palæmon*," Ortmann.

The species has not been described from any other localities.

54. **Leander northropi** n. sp. (Pl. xxx, Fig. 4).

(a) 1 specimen. Nassau, N. P., Jan., 1890.

A single specimen with a total length of 30 mm. Length of cephalothorax to tip of rostrum 11.5 mm.

Cephalothorax with small tooth below orbit and a very minute tooth below this and a little back from the anterior margin *on the lateral surface*.

Length of rostrum to posterior end of orbit 7 mm., slightly curved upwards toward apex. *Ten* teeth above, *four* below; the first dorsal tooth forms with the tip of rostrum a bifid extremity. A long interval between first and second tooth; interval between second and third one-third the length of that between first and second; fourth, fifth and sixth teeth follow at slightly diminishing intervals, the sixth being over the posterior part of orbit of eye. *Seventh, eighth and ninth teeth close together, posterior to orbit of eye.*

The first ventral tooth is a little in front of second dorsal, second ventral below second dorsal; third and fourth at equal intervals between second ventral and orbit of eye.

Inner antennæ: Peduncle reaches beyond second ventral tooth of rostrum; proximal segment about equal to the two distal. Upper flagellum bifid; united proximal portion of 14 segments; the shorter branch has 12 segments; united therefore for *more than half its length*. The longer branch reaches beyond the undivided flagellum.

Outer antennæ: Scaphocerite with lamellar portion slightly longer than spinose, reaches beyond first ventral tooth of rostrum; flagellum exceeds the length of the body.

Third pair maxillipedes reach to end of peduncle of inner antennæ.

First and second pereiopods: Long, slender and chelate; second longer than first; chela in second as long as carpus. Third and fourth pereiopods terminate in claws.

Pleopods, biramous, setose. Telson, lanceolate, 4 mm. long, noticeably shorter than uropods, distal extremity with two sharp spines. Outer uropod imperfectly divided transversely, the proximal division ending in a lateral spine.

This species is allied to *L. petitinga* F. Müller, from Brazil (see Ortmann, Revista do Museu Paulista, II, p. 191, 1897) and to *L. maculatus* Thallwitz (Abh. Mus. Dresd., III, p. 19, 1891) from West Africa.

I am indebted to Dr. Ortmann for the preparation of the following table, which exhibits the relationship:

| | L. maculatus. | L. northropi. | L. petitinga. |
|------------------|---|--|--|
| Inner antennæ | { 12-13 segments united 8 segments free. | { 14 segments united 12 segments free. | { 9 segments united 20 segments free. |
| Teeth of rostrum | $\frac{6+1}{3}$ { 1 posterior to orbit. | $\frac{9+1}{4}$ { 4 posterior to orbit. | $\frac{6+1}{5-6}$ { 1 posterior to orbit. |

Family **Hippolytidæ** Ortmann.

55. **Tozeuma carolinense** Kingsley.

Kingsley: Proc. Acad. Nat. Sci. Phila., p. 90, 1878.

(a) 1 ♀. with ova. Dredged in about 16 ft. Near Quarantine station, Jan. '90.

Kingsley's specimens are from Fort Macon and Beaufort, N. C., and Charlotte Harbor, Fla.

Measurements of Bahama specimen: total length 41 mm., rostrum 12 mm., cephalothorax (without rostrum) 7 mm., abdomen 22 mm.

Family **Alpheidæ** Bate.

56. **Alpheus edwardsii** (Audouin).

Athanas edwardsii Audouin; Planches de la descrip. de l'Egypte par M. Savigny, Crust., Pl. X, fig. 10, 1810.

Bate, Challenger, Macrura, p. 542, 1888.

(a) 4 specimens. Near Nassau, N. P., along shore, Febr. 20, '90.

(b) 1 specimen. Nassau, N. P., Jan., '90.

(c) 3 specimens. Under coral and in pools between tides, New Providence.

(d) 1 specimen. Under coral and in pools between tides, Nassau, N. P., Jan., '90.

(e) 2 broken. Near Nassau, N. P., Febr., '90.

The distribution of this species is circumtropical.

57. **Alpheus hippothoë**, De Man.

var. **bahamensis**, n. var. (Pl. xxx, Fig. 5).

(a) 24 specimens. Under coral and in pools between tides, New Providence.

(b) 3 specimens, one with ova. Nassau, N. P., Jan., '90.

(c) 2 specimens, one with ova.

This species is most closely allied to the variety *edamensis* of *Alpheus hippothoë* De Man, from the Bay of Bengal and Indian Archipelago (Arch. de Naturg., Bd. 53, p. 518, 1887). I am indebted to Dr. Ortmann for a communication from Prof. De Man comparing specimens from my material with his own *hippothoë*. As there are certain differences between the West and East Indian specimens I propose to make a new variety for the West Indian.

Total length from rostrum to telson, largest 24 mm., smallest 15 mm. Rostrum reaches nearly to end of first segment of inner antenna, sharp, laterally compressed, prolonged backwards as a distinct keel. Between keel and the prominent eyes a rounded depression. No ocular spines.

Inner antennæ: First joint of peduncle with small spine on outer surface; second joint nearly twice the length of proximal; terminal joint one-half the length of second. Shorter flagellum about the length of peduncle. Longer flagellum slender, about thrice the length of shorter.

Outer antennæ: Peduncle a little longer than that of inner, small spine on basal joint. Flagellum one third longer than long ramus of inner antenna, spinose portion of scaphocerite a little longer than the peduncle. Flabellar portion (scale) a trifle shorter; not quite so long as the peduncle.

Third pair of maxillipedes do not reach beyond end of peduncle of the outer antennæ.

First pair pereiopods: Large chela of largest specimen has a

length of 18 mm., of smallest specimen 8 mm. The large chela has a somewhat quadrangular depression on the outer surface, the distal end of which is continued upwards into a well-marked depression on the dorsal margin and extends backward as a groove along the inside of the dorsal surface. A distinct, but less marked depression on the ventral margin. Inner surface of the hand slightly hairy, outer surface nearly smooth. Fingers contorted, color in alcoholic material pale blue. Movable finger slightly longer than thumb. In the small chelapod, which may be on the right or left side, the finger is one-third the length of palm. Carpus of chelapods short. Meros triangular in section; ends distally in a sharp spine on the outer and inner angle. Distal end of meros reaches to end of peduncle of outer antennæ.

Second pair of pereopods very long. Distal end of meros reaches beyond antennal peduncle. First and second joints of carpus sub-equal, each a little longer than third and fourth together. Third and fourth sub-equal. Fifth about two-thirds length of first; equal in length to fourth and fifth together. Finger about one-half length of thumb. (Fifth joint a little too short in figure.)

Third and fourth pereopods short and stout, not quite reaching to distal end of meros of second. Length of meros less than three times its breadth. Carpus one half length of meros. *Both carpus and meros with spines on lower margin of distal end.* Propodos serrated on posterior surface.

Fifth pair of pereopods shorter and more slender. Telson with median furrow. Two small spines on either side of furrow. Outer plate of uropod minutely serrated on end. A sharp spine on its outer distal angle.

Principal variations from *A. hippothoë*—

In new variety: Peduncle of outer antennæ longer than that of inner. Lamellar portion does not reach end of peduncle. Third maxillipedes do not reach beyond antennal peduncle. Relative lengths of carpal joints of second pereopods differ.

Variations from *var. edamensis*—

Finger of small hand shorter than palm (longer in *eda-*

ensis). A quadrangular rather than a triangular depression on side of large hand.

First joint of carpus of second pereopod is equal in length to second (shorter in *edamensis*). Third and fourth pereopods less broad than in *edamensis*.

58. ***Alpheus websteri*** Kingsley.

Kingsley, Proc. Acad. Nat. Sci. Phil., p. 416, 1879.

(a) 3 specimens, one with ova. Along shore, near Nassau, N. P., Febr. 20, '90.

(b) 2 specimens, one with ova. Nassau, N. P., Jan. 10, '90.

(c) 3 specimens, fragmentary. Nassau, N. P., Jan. 10, '90.

Kingsley's type specimens were from Key West; it has been reported by Herrick from Nassau, N. P.

A. websteri is very probably the same as *A. formosus* Gibbs (Proc. Amer. Ass. Ad. Sci., p. 196, 1850). The descriptions apparently tally, though Gibbs makes no mention of the small black spine on the uropod which is mentioned as a characteristic feature by Kingsley and which is very evident in my specimens.

59. ***Alpheus nigro-spinatus*** n. sp. (Pl. xxx, Fig. 6).

(a) Two specimens. Under coral and in pools between tides, New Providence.

Carapace compressed. Rostrum short, acuminate, no longer than spines of ocular hoods; extended backwards as a ridge between the eyes, from each of which it is separated by a rounded depression. Spines of ocular hoods short, acuminate. The front of carapace is thus marked by three, nearly equal, small spines. Inner antennæ: Basal segment of peduncle with small spine (stylocerite); second and third segments, no spines but scattered hairs; second segment a little more than twice as long as the terminal; outer flagellum stouter and shorter than the inner. Outer antennæ: Outer angle of the basal joint of peduncle with a sharp, short spine; scaphocerite broad at base, outer margin produced into a strong spine which is longer than the inner, lamellar portion; distal end of terminal segment of

peduncle reaches to tip of scaphocerite. Third pair of maxillipedes reach about to the end of shorter flagellum of inner antennæ; strongly tufted with hair.

First pair of pereopods: Larger hand much inflated, a slight, but distinct constriction on the upper margin near the articulation of the dactylus, and a deep constriction on the lower margin. Thumb contorted; a groove on the outer margin, the inner surface thickly covered with hairs and punctate. Dactylus contorted; extends slightly beyond thumb; inner surface with tufts of hair. Small hand (which on the one specimen is left, the other right) has a longer and more slender dactylus and thumb. Length of large hand 16 mm.; breadth 6.5 mm. Length of small hand 9 mm.; breadth 4 mm.

Second pair of pereopods: Carpus five-jointed, proximal segment the longest, slightly longer than the second and third together; second and fifth segments each a little longer than one-half the length of first; third and fourth the shortest, subequal. Posterior pereopods; meros without spines. Telson broadly triangular; extremity truncate; two small spines on either side of median line of dorsal surface; the outer ramus of uropod bears on its external distal angle a large, very black spine, which is distinguished from the similar black spine of *A. websteri* Kingsley (l. c., p. 416, 1879) by its much larger size and consequently more prominent appearance. Length of specimens 25 mm. and 22 mm. respectively.

60. *Alpheus minor* Say.

Say, Jour. Acad. Nat. Sci. Phil., I, p. 245, 1818.

Kingsley, Bull. U. S. Geol. Survey, IV, p. 190, 1878.

Bate, Challenger, Macrura, p. 558, Pl. C, 1888.

(a) numerous specimens, from brown sponges.

(b) 1 ♀ with ova. Along shore near Nassau, N. P., Febr. 20, '90.

(c) 10 specimens, from brown sponges.

Range: From Cape Hatteras (U. S. F. C. 1885) to St. Paul's Rock (Bate, Challenger). Both shores of Central America.

Collected at Jamaica, New Providence.

Lot (c) may possibly be a variety as the thumb is shorter than the typical *minor*, but otherwise there seems to be no difference.

61. **Alpheus saulcyi** Guérin.

Guérin, in Hist. du Cuba, 1857.

Herrick, Memoires Nat. Acad. Sci., Vol. V, p. 381.

(a) 5 specimens, from green sponges. Febr. '90.

(b) 1 specimen, near Nassau, Febr. 5, '90.

(c) 1 specimen, ♂, from green sponge.

(d) 1 specimen, from sponge, Mar. 1, '90.

(e) 1 specimen, from sponge, Mar. 1, '90.

(f) 2 specimens, Nassau, N. P., Jan., '90.

Range: West Indies.

Found at Nassau, Martinique.

62. **Athanas ortmanni** n. sp. (Pl. xxx, Fig. 7).

(a) 1 specimen. Along shore, near Nassau, N. P., Febr. 20, '90.

Rostrum slender and pointed, reaching a little beyond the second joint of peduncle of inner antennæ. Antero-lateral margin of carapace extends obliquely backward, prolonged in front of eye into minute spine. Eye-stalk short, not projecting beyond carapace. The eye is seen through the somewhat transparent carapace as in *Alpheus*. Inner antennæ, with stylocerite reaching to distal end of second segment of peduncle. From the peduncle arise two flagella of nearly equal length, the upper somewhat more slender than the lower, bearing on the fourth segment from base a minute, subsidiary flagellum.

Outer antennæ with scaphocerite nearly as long as the peduncles of inner antennæ, broad and fringed with hairs. Third pair of maxillipedes reach slightly beyond the distal end of scaphocerite.

First pair of pereopods: That on the right side is robust with swollen chela, terminating in slender hooked fingers which are minutely serrated on the opposing edges. Margin of chela entire, length 5 mm., breadth 2.5 mm. Carpus

short. Distal end of meros reaches to extremity of third pair maxillipedes. Left chelapod lacking.

Second pair of pereopods slender, with very small chelæ. Carpus five-jointed; proximal segment equal in length to the four distal segments. Remaining three pairs of pereopods similar to each other and equal in length to the second pair. Pleopods narrow and biramous. Telson narrow and compressed, with smooth margins. Uropods slightly longer than telson.

Total length of specimen 16 mm.

The species above described agrees generically with *Athanas* Leach (Edin. Ency., VIII, p. 432), with the exception that the eyes are entirely covered by the carapace. I propose, rather than found a new genus on the single specimen, to amend Leach's definition of *Athanas* by changing the statement, "Ophthalmopoda short, scarcely reaching beyond frontal margin of carapace" (Bate, Challenger, Macrura, p. 528), to *ophthalmopoda short, covered by, or scarcely reaching beyond the frontal margin of carapace*.

There are four hitherto described species of *Athanas*:

A. nitiscens Leach. England and Norway, Mediterranean to Cape Verde Islands.

A. veloculus Bate (l. c., p. 529). Cape Verde Islands.

A. mascarenicus Richters (Beitrage zur Meeresfauna von Mauritius u. d. Seychellen, p. 164, 1880), Mauritius.

A. dimorphus Ortmann, Crust. in Semon's Forschungsreise (Jena. Denks., VIII, 1894, p. 12). East Africa: Dar-es-Salaam.

From all these species *A. ortmanni* may be distinguished at a glance by the form of the large chela.

PENÆIDEA.

Family Penæidæ Bate.

63. *Penæus constrictus* Stimpson.

Stimpson, Ann. Lyc. Nat. Hist. N. Y., p. 135, 1871.

Miers, Notes on the Penæidæ, Proc. Zool. Soc., London, p. 308, 1878.

(a) 1 ♂. Near Nassau, N. P., Febr. 1, 1890.

(b) 1 ♀. Nassau, N. P., Febr. 5, '90.

Range: East Coast U. S.

Not before reported from West Indies.

Collected by Stimpson at Beaufort, and Charleston, S. C.

STOMATOPODA.

Family *Squillidæ* Latreille.

64. *Pseudosquilla ciliata* Miers.

Miers, Ann. and Mag. Nat. Hist. (5), V, p. 108, Pl. III, 1880.

Brooks, Challenger, Stomatopoda, p. 53, 1886.

(a) 1 ♂ broken. Near Nassau, N. P., Febr., 1890.

Range: Widely distributed over Atlantic and Pacific.

Collected at Cuba, Bahamas, St. Thomas.

65. *Gonodactylus oerstedii* Hansen.

Hansen, Isopoden, Cumaceen und Stomatopoden der Plankton expedition, 1895.

(a) 1 ♀. Nassau, N. P., Febr. 5, '90.

(b) 1 ♀, fragmentary. Quarantine station, near New Providence, Jan. 25, '90.

(c) 1 ♀. Along shore near Nassau, N. P., Febr. 20, '90.

(d) 1 ♀. Nassau, N. P., Jan., '90.

(e) 1 ♂, 1 ♀, 1 fragmentary. Under coral and in pools between tides, near Nassau, N. P.

(f) 1 ♂. (label erased).

(g) 2 juv. Dredged in about 16 ft. near Quarantine station, Jan., '90.

Hansen, l. c. supra, p. 65 (and footnote), calls the West Indian *Gonodactylus*: *G. oerstedii* n. sp. and retains the name *G. chiragra* Fabr. for the East Indian form.

He says (footnote): "This species (*oerstedii*) may be distinguished from the East Indian form, *G. chiragra* Fabr., especially by the character, that it possesses a small keel inside of

and close to, the keel that ends in the sublateral process of the posterior margin, while such a secondary keel is wanting in the Indo-Australian species."

Collected at Bahamas, Cuba, Jamaica, St. Thomas.

CIRRIPEDIA.

Family **Lepadidæ** Darwin.

66. **Lithotrya dorsalis** Sowerby.

Sowerby, Genera of Shells, Apr., 1822.

Darwin, A Monograph of the Cirripedia, p. 351, Pl. VIII, 1851.

(a) 10 specimens. Salt Cay, N. P., in rocks in surf, Jan. 28, '90.

(b) 8 specimen. Salt Cay, Nassau, N. P., ocean side, Febr. 6, 1890.

Range: West Indies, Venezuela, Honduras.

Collected at Barbadoes.

Family **Balanidæ** Darwin.

67. **Acasta cyathus** Darwin.

Darwin, A Monograph of the Cirripedia-Balanidæ, p. 312, Pl. ix, 1854.

(a) 4 specimens, in sponge, dredged Jan. 22, '90.

(b) 2 specimens, near Nassau, N. P., Febr., '90.

Range: Madeira, West Indies (Darwin).

ISOPODA.

Two species of Isopoda, one probably a *Lygia* of which there are several specimens. Another parasitic on a fish, probably one of the *Cirolanidæ*.

AMPHIPODA.

Several small amphipods undetermined.

PRINCETON UNIVERSITY,
April, 1898.

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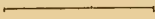
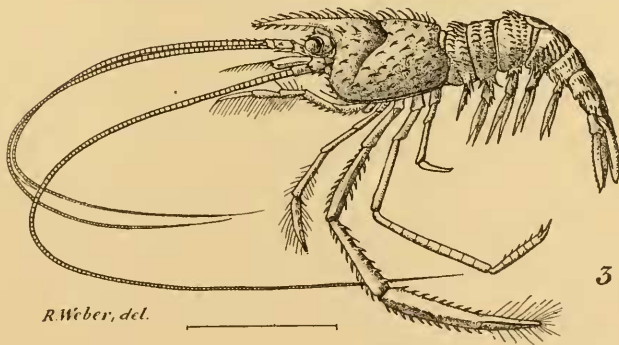
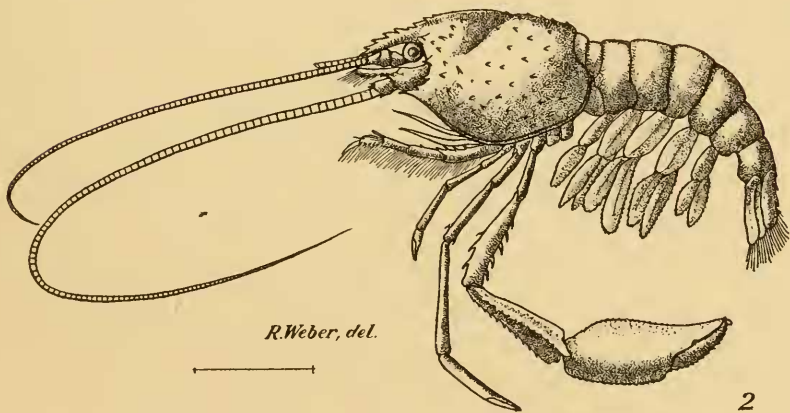
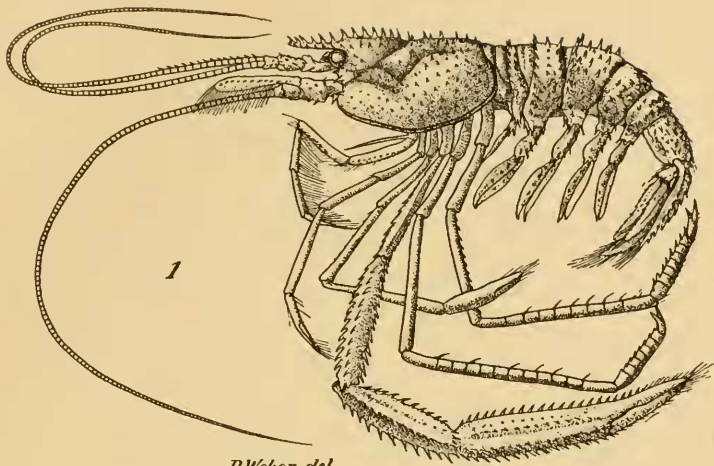


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